REMARKS

This communication responds to the Office Action mailed on April 12, 2006. Claims 1, 8, 11, 16, and 20 are amended, no claims are canceled, and no claims are added. As a result, claims 1-26 are now pending in this Application.

Objection to the Drawings

An objection was raised to the drawings under 37 CFR 1.83(a). The Office stated that "… it is necessary to depict the interconnection of a MIMD computational unit being interconnected to the shared memory unit." This connection is already illustrated in FIG. 2, where the "DPUs SU0-SU3 may operate independently (e.g., in carrying out a MIMD operation)" and may be coupled to the "group of banks 218" by a bus 258. See Application, FIG. 2, and paragraphs [0017]-[0022]. Therefore, the objection should be resolved, and the Applicant respectfully declines to amend the drawings at this time.

Applicant submits herewith three sheets of formalized drawings, each identified as "REPLACEMENT SHEET." No amendments are made to the drawings. It is believed that the drawings are in compliance with 37 CFR 1.84.

§112 Rejection of the Claims

Claims 1-22 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The claims have been amended as suggested in the Office Action, to clarify that the number 2^N (number of banks accessed) is less than or equal to B (number of banks), and not for reasons related to patentability, and the rejection should now be moot. The Applicant gratefully acknowledges the Examiner's thoughtful comments regarding the term "about".

Claims 3, 9, and 20-22 were rejected under 35 USC § 112, first paragraph, as being based on a disclosure that is not enabling. To support this rejection, the Office asserts that "MIMD operations inherently implies the corresponding requirement of a memory subsystem being capable of satisfying a request of multiple independent non-correlated instructions and/or data streams simultaneously, thereby may not rely on a single root address to derive correspondingly required bank addresses as disclosed (unlike SIMD operations which may inherently utilize a

single root address to derive multiple correlated data access requests in conjunction with an access mode indication being associated with the instruction being processed)." The Applicant respectfully disagrees.

The Office is invited to consider the following possibility: a MIMD operation wherein a single data block is accessed by each one of the multiple instructions. In this case, a single root address can indeed be used to reference the single data block. Such is also the case for SIMD operations.

The M.P.E.P. § 2164 *et seq.* notes that the burden is on the Examiner to establish a *prima facie* case to maintain a rejection of non-enablement with respect to the disclosure of a patent application under 35 U.S.C. § 112, first paragraph. Such a case requires:

> 1. a rational basis as to
>> a. why the disclosure does not teach, or
>> b. why to doubt the objective truth of the statements in the disclosure that purport to teach;
> 2. the manner and process of making and using the invention;
> 3. that correspond in scope to the claimed invention;
> 4. to one of ordinary skill in the pertinent technology;
> 5. without undue experimentation; and
> 6. dealing with subject matter that would not already be known to the skilled person as of the filing date of the application.

"The Examiner must provide evidence … supporting each of these elements for a rejection under the first paragraph of § 112 to be proper." See *Patent Prosecution, Practice and Procedure Before The United States Patent Office*, Ira H. Donner, pg. 691, 2002.

Since the example provided shows that MIMD operations do not inherently imply the requirement suggest by the Office, and the evidence noted above is not present in the record, a *prima facie* case to maintain a rejection of non-enablement under § 112, first paragraph, has not been established. Reconsideration and withdrawal of this rejection is respectfully requested.

§102 Rejection of the Claims

Claims 1, 8, 11, 16, 20 and 23 were rejected under 35 USC § 102(b) as being anticipated by Wingard et al. (U.S. 6,182,183; hereinafter "Wingard"). The Applicant does not admit that Wingard is prior art and reserves the right to swear behind this reference at a later date. In addition, because the Applicant asserts that the Office has not shown that Wingard discloses the identical invention as claimed, the Applicant traverses this rejection of the claims.

It is respectfully noted that anticipation under 35 USC § 102 requires the disclosure in a single prior art reference of each element of the claim under consideration. *See Verdegaal Bros. V. Union Oil Co. of California,* 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, "[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*" *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.,* 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.,* 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added). "The *identical invention* must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.,* 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP § 2131 (emphasis added).

In the Office Action, it is asserted that Wingard discloses "an interface architecture whereby multiple computation units ... may interface to a common logical memory interface, whereby each computation unit may access said memory as a function of it's said protocol requirement." However, a careful reading of Wingard reveals that this assertion, while correct on its face, does not show anticipation by Wingard. This conclusion may be better understood by considering the reference in more detail.

Wingard discloses a shared communications bus to connect a plurality of subsystems, including central processing units, dynamic random access memory, and eraseable, programmable, read only memory. See Wingard, Col. 4, lines 20-33 and Col. 5, lines 7-15. A While a protocol having a variety of characteristics can be specified, the Applicant was unable to find any teaching or suggestion of "selecting a memory access group size ... responsive to

receiving an indication of a *change* in a protocol type" as claimed by the Applicant. See
Wingard, Col. 2, lines 57-60; Col. 3, line 63 – Col. 4, line 3; Col. 5,line 12 – Col. 6, line 5; Col.
6, line 65 – Col. 7, line 24; Col. 8, line2 32-35; Col. 12, lines 20-53; Col. 13, lines 32-35; and
Col. 15, lines 44-47.

 Thus, Wingard teaches the use of a single (albeit versatile) protocol, and not the use of
multiple protocols, so that it is impossible to have operations conducted responsive to receiving
an indication of a change in a protocol type (e.g., selecting or accessing "a memory access group
size of about 2^N memory banks responsive to receiving an indication of a change in a protocol
type …", as claimed by the Applicant in claims 1, 8, 11, 16, and 20). The Applicant was also
unable to find any teaching in Wingard with respect to controlling memory bandwidth
"responsive to a number of data processing units in use" as claimed by the Applicant in claim 23.

 Since Wingard does not teach the identical invention claimed, it is believed that
independent claims 1, 8, 11, 16, 20, and 23 (as well as all claims depending from them) are in
condition for allowance. Reconsideration and withdrawal of the rejection under § 102 is
respectfully requested.

§*103 Rejection of the Claims*

 Claims 2-7, 9, 10, 12-15, 17-19, 21, 22 and 24-26 were rejected under 35 USC § 103(a)
as being unpatentable over Wingard and in further view of Ing-Simmons et al. (U.S. 5,239,654;
hereinafter "Ing-Simmons"). First, the Applicant does not admit that Wingard or Ing-Simmons
are prior art, and reserves the right to swear behind these references in the future. Second, since
a *prima facia* case of obviousness has not been established in each case, the Applicant
respectfully traverses this rejection.

 The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of
obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d (BNA) 1596, 1598 (Fed. Cir. 1988).
In combining prior art references to construct a *prima facie* case, the Examiner must show some
objective teaching in the prior art or some knowledge generally available to one of ordinary skill
in the art that would lead an individual to combine the relevant teaching of the references. *Id*.
The M.P.E.P. contains explicit direction to the Examiner that agrees with the *In re Fine* court:

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Appellant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d (BNA) 1438 (Fed. Cir. 1991)).

No combination of Wingard and Ing-Simmons renders all of the claim limitations. As noted above, Wingard does not teach selecting or accessing "a memory access group size ... responsive to receiving an indication of a change in a protocol type ...", or controlling memory bandwidth "responsive to a number of data processing units in use ...". Neither does Ing-Simmons. Therefore, since there is no evidence in the record that combining Wingard and Ing-Simmons will result in selecting or accessing "a memory access group size of about 2^N memory banks responsive to receiving an indication of a change in a protocol type ...", as claimed by the Applicant in claims 1, 8, 11, 16, and 20, or controlling memory bandwidth "responsive to a number of data processing units in use" as claimed by the Applicant in claim 23, it is respectfully requested that the rejection of claims 2-7, 9-10, 12-15, 17-19, 21-22, and 24-26 under 35 U.S.C. § 103 be reconsidered and withdrawn, since any claim depending from a nonobvious independent claim is also nonobvious. See M.P.E.P. § 2143.03.

CONCLUSION

The applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone the Applicant's attorney ((210) 308-5677) to facilitate prosecution of this Application. If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

INCHING CHEN

By his Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, Minnesota 55402
(210) 308-5677

By / *Mark V. Muller* /
　　　Mark V. Muller
　　　Reg. No. 37,509